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O. P. JINDAL SCHOOL, SAVITRI NAGAR
Half – Yearly Examination (2026 – 2027)

Class: XII
Subject: Computer Science(083)

MM:50
Time: 2 Hr

(Fifteen Minutes Extra will be given for reading the Question Paper.)

General Instructions:

- **This question paper contains five sections, Section A to E.**
- **All questions are compulsory.**
- **Section A has 10 questions carrying 01 mark each.**
- **Section B has 05 (11-15) Very Short Answer type questions carrying 02 marks each**
- **Section C has 04 (16-19) Short Answer type questions carrying 03 marks each.**
- **Section D has 02 (20-21) Long Answer type questions carrying 04 marks each.**
- **Section E has 02(22-23) question carrying 05 marks each.**
- **All programming questions are to be answered using Python Language only.**

Section A

1. What will be the output of the following code snippet?
   print(23 + (5 + 6)**(1 + 1))**
   a. 129 b. 8 c. 121 d. None of the above.

2. How can you concatenate two strings in Python?
   a) Using the concat() method b) Using the join() method
   c) Using the & operator d) Using the + operator

3. What is the output of the following Python code snippet?
   string = "Hello, World!"
   print(string[3:7])
   a) "Hello" b) "lo, " c) "lo, W" d) "lo, World"

4. Which of the following statements about function arguments in Python is true?

   a) All arguments must have default values

   b) Functions cannot have more than one argument

   c) Arguments are passed by value

   d) Arguments can have default values

5. What function is used to read the entire contents of a file as a string in Python?

   a) read_file() b) reads() c) readlines() d) read()

6. What does the tell() method do in Python file handling?

   a) Returns the current line number being read

   b) Returns the current position of the file cursor

   c) Tells if the file exists or not

   d) Tells the file size

7. Identify the statement from the following that will raise an error:

   a) print("A" * 3) b) print(5 *3)

   c) print("15"+3) d) print("A"+"b")

8. What is the output of the given expression?

```
remark = "NLP-Natural Language Processing"
note = remark[2:18].split( )
print(note)
```

   a) ['P-Natural', 'Languag'] b) ['LP-Natural', 'Langua']

   c) ['P-Natural', 'Langua'] d) ['LP-Natural', 'Languag']

9. Which command can we use to insert 5 to the third position in list1?

   A. list1.insert(3, 5)
   B. list1.insert(2, 5)
   C. list1.add(3, 5)
   D. list1.append(3, 5)

10. **Assertion (A):** For a binary file opened using 'rb' mode, the pickle.dump ( ) method will display an error.

Reason (R) : The pickle.dump( ) method is used to read from a binary file.

A. Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A).
B. Both Assertion (A) and Reason (R) are true, but Reason (R) is **not** the correct explanation of Assertion (A).
C. Assertion (A) is true, but Reason (R) is false.
D. Assertion (A) is false, but Reason (R) is true.
E. Both Assertion (A) and Reason (R) are false.

Section B

11. Consider the dictionaries :

D1={'One':'A','Two':'B','Three':'C'} and D2={'Four':'D','Five':'E','One':'Z'}

(Answer using built in functions only)

a. Display the value of the key 'Two' from dictionary D1.

b. Update the dictionary D2 in D1.

12. Predict the output of the following code.

```
s="science"
L=[1,3,4,8,7,18]
d={}
for i in range(len(L)//2):
        if i%2==0:
            d[L.pop( )]=s[i]
        else:
            d[L.pop( )]=i*2
for k,v in d.items( ):
   print(k,v,sep="-")
```

13. Look at the following python code and find the possible output(s) from the options (i) to (iv) following it. Also, write the highest and lowest values that can be pointed by label VALUE.

```
import random
for y in range(4):
        VALUE = random.randrange(4,11) + y
        print(VALUE, "#", end=" ")
```

i. 6 # 7 # 12 # 13 #
ii. 5 # 11 # 8 # 11 #
iii. 4 # 7 # 12 # 14 #
iv. 9 # 15 # 8 # 6 #

14. Find the output of the following code.

```
import random
heights=[10,20,30,40,50]
beg=random.randint(0,2)
end=random.randint(2,4)
for x in range(beg,end):
    print(heights[x],end='@')
```

(i) 30 @
(ii) 10@20@30@40@
(iii) 20@30
(iv) 40@30@

15. A. Which Can a function return multiple values? How?
B. What are the advantages of having function in a program?

OR

Write one example of each of the following in Python:
(i) Syntax Error
(ii) Implicit Type Conversion

Section C

16. Write a function countINDIA() which read a text file 'myfile.txt' and print the frequency of the words India in it(ignoring the case of the word)
Example: If the file content is as follows:
INDIA is my country. I live in India. India has many states.
The countINDIA() function display this output:
Frequency of India is 3

17. Predict the output of the following:

A.
```
l=[30,24,56,78,75,80,93]
x=y=z=0
for i in l:
```

```
    if i%10==0:
        x+=i//5
    elif i%5==0:
        y+=i*2
    else:
        z+=i*3
print(x,y,z)
```

OR

B.
```
my_dict={}
my_dict[(1,2,4)]=8
my_dict[(4,2,1)]=10
my_dict[(1,2)]=12
sum=0
for k in my_dict:
    sum+=my_dict[k]
    print(sum)
print(my_dict)
```

18. Write a function lenFOURword(L), where L is the list of elements (list of words) passed as argument to the function. The function returns another list named 'indexList' that stores the indices of all four lettered word of L.

For example:
If L contains ["DINESH", "RAMESH", "AMAN", "SURESH", "KARN"]
The indexList will have [2, 4]

19. Write the output of the code given below:

```
a =30
def call (x) :
  global a
  if a%2==0:
      x+=a
      x=5
  else:
      x-=a
      return x

print(call(35),end="#")
print(call(40),end= "@")
```

Section D

20. (a)What are CSV File Format and its advantage for permanent storage?
(b) Write a Program in Python that defines and calls the following user defined functions:

(i) ADD() – To accept and add data of an student to a CSV file 'Sudent_record.csv'. Each record consists of a list with field elements as stdid, name and mobile to store student id, student name and student mobile respectively.
(ii) COUNTR() – To count the number of records present in the CSV file named 'Student_record.csv'

OR

a) Give any one point of difference between a binary file and a csv file.
b) Write a Program in Python that defines and calls the following user defined functions:

(i) add() – To accept and add data of an employee to a CSV file 'employee.csv'. Each record consists of a list with field elements as eid, name and salary to store employee id, employee name and employee salary respectively.
(ii) search()- To display the records of the employee whose salary is more than 40000

21. A file, PASSENGERS. DAT, stores the records of passengers using the following structure: **[PNR, PName, BRDSTN, DESTN, FARE]**
Where:
PNR - Passenger Number (string type)
PName - Passenger Name (string type)
BRDSTN - Boarding Station Name (string type)
DESTN - Destination Station Name (string type)
FARE - Fare amount for the journey (float type)
Write user defined functions in Python for the following tasks:
(i) **Create ( )** - to input data for passengers and write it in binary file **PASSENGERS.DAT**.

(ii) **SearchDestn (D)** - to read contents from the file PASSENGERS. DAT and display the details of those Passengers whose DESTN matches with the value of D.

(iii) **UpdateFare( )** to increase the fare of all passengers by 5% and rewrite the updated records into the file **PASSENGERS.DAT**.

OR

Mr. Ankit is a python programmer working in a software company. He has to develop a simple inventory management system of all employees working in an educational institute. He has created a csv file named record.csv, to store the details of employees. The structure of record.csv is:
[employee_id, emp_name, salary]
Mr. Ankit wants to write a Program in Python that defines and calls the following user defined functions:

(i) ADD( ) – To accept and add data of 6 employees to a CSV file 'record.csv'.
(ii) COUNTR( ) – To count the number of records present in the CSV file named 'record.csv'.

Section E

22. (a) Write a Python function that displays all the lines containing the word 'vote' from a text file "Elections.txt".

For example, if the file contains:

In an election, many people vote to choose their representative.

The candidate getting the maximum share of votes stands elected.

Normally, one person has to vote once.

The process of voting may vary with time and region.

Then the output should be:

In an election, many people vote to choose their representative.

Normally, one person has to vote once.

(b) Mr. Ashok is working on a Toy Shop project to manage toys records using Python. The toys data is stored in a binary file named TOYDATA.DAT. The binary file TOYDATA.DAT contains each record in given format:

{"Toy_ID": T_ID, "TName":toy_name, "Price":price}

Where

Toy_ID: Toy ID (string)
TName: Toy name (string)
Price: Price of toy (integer)

You as a programmer, help him to write following python functions:

ADD_Data( ) : To write n records in binary file TOYDATA.DAT by taking the values for each record from user.
SHOW_Data( ) : Read all records from binary file and display them.

Remove_Toy( ) : that deletes the record of a toy in the file TOYDATA.DAT based on the Toy ID provided by the user. If the Toy ID does not exist in the file, display an appropriate message.

23. (a) A csv file "Happiness.csv" contains the data of a survey. Each record of the file contains the following data:

Name of a country
Population of the country
Sample Size (Number of persons who participated in the survey in that country)
Happy (Number of persons who accepted that they were Happy)

For example, a sample record of the file may be:

['Signiland', 5673000, 5000, 3426]

Write the following Python functions to perform the specified operations on this file:
(I) Read all the data from the file in the form of a list and display all those records for which the population is more than 5000000.
(II) Count the number of records in the file.

(b) Write a Python function that displays all the words starting and ending with a vowel from a text file "Report.txt". The consecutive words should be separated by a space in the output. For example, if the file contains:

Once there was a wise man in a village.

He was an awesome story-teller.

He was able to keep people anchored while listening to him.

Then the output should be:

Once a a awesome able